Applicant : ChangSheng Liu et al.   Attorney's Docket No.: 16969-017001
Serial No. : 09/676,526
Filed : October 2, 2000
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REMARKS

Claims 2-5, 10, 11, and 13-16 are pending and new claims 17-21 are submitted herewith. Claims 2, 10, 13, and 14 are amended herewith. Applicants preserve the right to pursue previously pending subject matter.

Applicant confirms the election of Group II, claims 2-5, 10, 11, and 13-16.

The specification has been amended as requested by the Examiner.

The title has been amended.

Claims 13 and 14 have been amended to address informalities noted by the Examiner.

Claims 2-5, 10, 11, and 13-16 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,017,434 to Simpson, et al. (Simpson).

As amended, independent claim 2 recites a clustering step comprising:

> normalizing light intensities of each of the detected spectra by a respective normalization value to prepare spectra comprising normalized light intensities;
> comparing corresponding normalized light intensities of different spectra; and
> clustering detected spectra that do not have compared corresponding normalized light intensities differing by more than the specified clustering criterion;

Simpson does not disclose or suggest the method of claim 2. The binning[1] disclosed by Simpson is understood to refer to the configuration of an array detector rather than the comparing or clustering of different spectra. Simpson's assembly of a 4x4 matrix does not disclose or suggest the totality of the normalizing, comparing, or clustering steps of claim 1.

As amended herein, independent claim 10 recites a step of calculating coefficients, comprising:

> normalizing light intensities of each of the respective sets of light intensities with respect to a respective normalization value;
> comparing normalized light intensities of different sets of light intensities;
> clustering detected sets of light intensities that do not have compared corresponding normalized light intensities differing by

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[1] Simpson, e.g., col. 22, line 1 to col. 24., line 19.

more than a specified clustering criterion; and
preparing a calibration matrix using the clustered sets of
light intensities.

Simpson does not disclose or suggest the normalizing or clustering steps
of claim 10.

Independent claim 13, recites:
normalizing wavelength values of the time-wavelength
distribution; and
identifying peaks that do not have corresponding
normalized wavelength values differing by more than the at least
one similarity criterion.

Simpson does not disclose or suggest the normalizing or identifying steps of claim 13.

In view of the foregoing, it is submitted that the rejection of claims 2-5, 10, 11, or 13-16
has been overcome.

Claims 2, 3, 10, 11, and 13-15 were rejected under 35 U.S.C. § 102(e) as being
anticipated by U.S. Patent No. 6,333,501 to Labrenz, et al. (Labrenz).

Labrenz discloses performing a "cluster analysis" in which a processor 140 defines

a distance measure between two distinct response functions, which
can be represented as vectors in the n_b -dimensional space and are
equivalent to rows of the de-biased electropherogram. For
example, in one implementation, the distance measure is the
generalized angle between the two vectors. The processor 140 may
then use one of several available methods for clustering, including
hierarchical and partitional methods (see, e.g., A. K. Jain et al.,
"Data Clustering: A Review," ACM Inc., (date unknown)). In the
former case, the processor 140 will typically compute the pair-wise
distance between each unique pair of vectors labeled by the set τ,
thus defining a similarity matrix on the input data. Then, for
example, linkage analysis in conjunction with some rule or
threshold on the linkage distances may be used to determine the set
(and number) of clusters.

Labrenz, col. 9, line 58 to col. 10, line 6.

Labrenz does not disclose or suggest the inventions of independent claims 2, 10, and 13
as amended herein. For example, claims 2 and 10 refer to clustering detected spectra that do not
have compared corresponding normalized light intensities differing by more than a specified
clustering criterion, which step is not disclosed or suggested by Labrenz. Claim 13 refers to

identifying peaks that do not have compared corresponding normalized wavelength values differing by more than the at least one similarity criterion.

Claims 4 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Labrenz in view of Simpson.

As discussed above, neither Labrenz nor Simpson discloses or suggests the method of independent claim 2, from which claims 4 and 5 depend. It is further submitted that no combination of Labrenz and Simpson discloses or suggests the invention of independent claim 2. Accordingly, it is submitted that claims 4 and 5 are non-obvious with respect to the cited art.
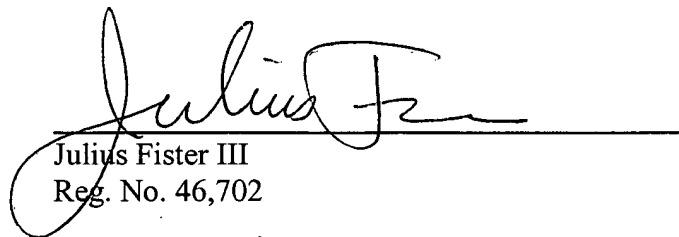
In view of the foregoing, it is submitted that the rejections in the Office Action have been overcome.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: July 29, 2004

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